

Abstract

A technique for providing auxiliary conduits in multi-trip completions is disclosed. The technique has particular applicability to liner mounted screens which are to be gravel packed. In the preferred embodiment, a protective shroud is run with the gravel pack screens with the auxiliary conduits disposed in between. The auxiliary conduits terminate in a quick connection at a liner top packer. The gravel packing equipment can optionally be secured in a flow relationship to the auxiliary conduits so as to control the gravel packing operation. Subsequent to the removal of the specialized equipment, the production tubing can be run with an auxiliary conduit or conduits for connection down hole to the auxiliary conduits coming from the liner top packer for a sealing connection. Thereafter, during production various data on the well can be obtained in real time despite the multiple trips necessary to accomplish completion. The various completion and/or production activities can also be accomplished using the auxiliary conduits such as actuation of down hole flow control devices, chemical injection, pressure measurement, distributed temperature sensing through fiber optics, as well as other down hole parameters.